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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/557,284	04/24/2000	Robert David Freeman	M-8745 US	8129

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EXAMINER

CAO, ALLEN T

ART UNIT	PAPER NUMBER
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2652

DATE MAILED: 04/26/2004

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/557,284

Applicant(s)

FREEMAN ET AL.

Examiner

Allen T Cao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-88 is/are pending in the application.
- 4a) Of the above claim(s) 54-88 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 30-33 is/are rejected.
- 7) ☒ Claim(s) 11-29 and 34-53 is/are objected to.
- 8) ☒ Claim(s) 1-88 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1. Applicant's election of Group I, claims 1-53 (claims 40-53 have been rejoined into group I by Examiner) in Paper No. 11 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 54-88 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected claims, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 11.
3. Claim 35 is objected to because of the following informalities: The phrase "Claim 33" in claim 35, line 1 should be changed to –Claim 34—; claim 35 should depended to claim 34 instead of claim 33 because only claim 34 introduces a first arm and a second arm which is claimed in claim 35. Appropriate correction is required.
4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-2, 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al (US. 6,590,853 B1).

Lee et al disclose an optical disk drive having a housing (inherently) including a base portion 10; an optical disk 20 having information on at least one side; the optical disk mounted on a shaft 11 for rotation (figure 2); a rotary actuator 50 having a first end

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and a second end, the first end pivotally mounted to the base portion 10 for positioning the second end relative to the surface of the disk; an optical pick up unit (column 2, lines 64-65) disposed on the second end of the actuator 50, the optical pick up unit having a light beam generating member (31, 41), an objective lens (37, 47) and at least one light beam directing member (mirrors 34, 44, 45, and 46) which direct the light generating beam (31, 41); see also figure 1, all as set forth in claim 1.

Regarding claim 2, Lee et al inherently disclose that the rotary actuator 50 pivots about a shaft (figures 1 and 2).

Regarding claim 10, Lee et al inherently disclose that the actuator moves in three dimension relative to the surface of the disk (left, right and up-down directions).

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al in view of Blanks (US. 5,315,465).

Lee et al do not disclose that the rotary actuator comprises a ball bearing pivot.

Blanks discloses a disk drive having an actuator including ball bearing pivot 120 (figure 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the pivot of the actuator of Lee et al with a ball bearing pivot as taught by Blanks as an obvious engineering routine choices pivot in order to

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improve the pivot rotating of the actuator, thus improve read/write characteristics of the head.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al in view of Faris (US. 5,729,406).

Lee et al do not disclose that the rotary actuator comprises a jewel bearing pivot.

Faris discloses a disk drive having an actuator 32 including Jewel bearing pivot 45 (figure 10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the pivot of the actuator of Lee et al with a Jewel bearing pivot as taught by Faris as an obvious engineering routine choices pivot in order to improve the pivot rotating of the actuator, thus improve read/write characteristics of the head.

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al in view of Myers (US. 5,675,456).

Lee et al do not disclose that the rotary actuator comprises a bushing pivot.

Myers discloses a disk drive having an actuator including bushing pivot (column 2, lines 23-26).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the pivot of the actuator of Lee et al with a bushing bearing pivot as taught by Myers as an obvious engineering routine choices pivot in order to provide acoustic isolation of the pivot shaft from the actuator bearing, thus improve read/write characteristics of the head.

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10. Claims 3, 6 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al in view of Blanks (above paragraph No. 6), Faris (above paragraph No. 7), and Myers (above paragraph No. 8).

Lee et al do not disclose that the rotary actuator comprises a knife edge pivot (claim 3), a flexure pivot (claim 6), a split band pivot (claim 8), or a torsional pivot (claim 9).

Blanks, Faris, and Myers disclose a different replacement pivot as set forth in the above paragraph No. 6, 7 and 8.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the pivot of the actuator of Lee et al with a knife edge pivot (claim 3), a flexure pivot (claim 6), a split band pivot (claim 8), or a torsional pivot (claim 9) as taught by Blanks, Faris, and Myers which shown that modifying the pivot techniques as an obvious engineering routine choices pivot in order to improve the pivot rotating of the actuator, thus improve read/write characteristics of the head.

11. Claims 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al in view of Ishibashi et al (US. 4,761,774).

Lee et al disclose an optical disk drive having a housing (inherently) including a base portion 10; an optical disk 20 having information on at least one side; the optical disk mounted on a shaft 11 for rotation (figure 2); a rotary actuator 50 having a first end and a second end, the first end pivotally mounted to the base portion 10 for positioning the second end relative to the surface of the disk; an optical pick up unit (column 2, lines 64-65) disposed on the second end of the actuator 50, the optical pick up unit having a

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light beam generating member (31, 41), an objective lens (37, 47) and at least one light beam directing member (mirrors 34, 44, 45, and 46) which direct the light generating beam (31, 41); see also figure 1, all as set forth in claims 30 and 33.

Regarding claim 31, Lee et al also disclose that the optical pick up unit pivots relative to the surface of the disk.

Regarding claim 32, Lee et al further inherently disclose that the objective lens moves in an arcuate path toward and away from the surface of the disk.

Lee et al do not clearly disclose that the optical pick up unit includes a light emitting source (intended use) for focusing a light beam by the light source on the data layer of the optical disk as set forth in claim 30.

Ishibashi et al disclose an optical disk drive apparatus having a housing (inherently) including a base 10 and a cover (inherently); an optical disk 11 mounted on a spindle 12 for rotation relative to the base 10; a rotary actuator 3 having an optical pick up unit including a light emitting source for focusing a light beam emitted by a light source on the data layer of the optical disk 11 (column 3, lines 28-43).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the pick up unit of Lee et al with a light emitting source as set forth, supra as taught by Ishibashi et al to improve the light transmitting/emitting of the optical pick up unit, thus improve density and/or read/write characteristics of the optical head.

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12. Claims 11-29 and 34-53 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter:

a) The prior art of record neither suggests nor discloses an optical pick-up unit of an optical disk drive as set forth in claim 1 further having a tracking arm and a focus arm as recited in claim 11.

b) The prior art of record neither suggests nor discloses an optical pick-up unit of an optical disk drive as set forth in claim 33 further having a first arm and a second arm as recited in claim 34.

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US006704256B2, US005157649A, US006044048A, US005195081A, US006130872A, US005510940A, US005748605A.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen T Cao whose telephone number is (703) 305-3796. The examiner can normally be reached on Mon - Thurs (7:30 - 6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Allen Cao
Primary Examiner

AC
April 15, 2004